



EXCELLENCE IN MASONRY SINCE 1957

**SILICA EXPOSURE  
SAFETY POLICY  
&  
WRITTEN EXPOSURE  
CONTROL PLAN**

**FOR  
TOWNSEND & SCHMIDT  
MASONRY**



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# 1.0 SILICA EXPOSURE SAFETY POLICY

## I. PURPOSE AND SCOPE

- A. Townsend & Schmidt Masonry is committed to providing a safe and healthy workplace to our employees, recognizing the right of workers to work in a safe and healthy work environment and ensuring that activities do not adversely affect the health and safety of any other persons.
- B. The purpose of the Respirable Silica Exposure Safety Program is to explain the hazards associated with silica dust and outline the steps to take to ensure employees who work with or around silica are not exposed to hazardous levels of silica dust. This program applies to employees who are expected to be exposed to respirable silica dust while using masonry contracting tools on silica containing materials.
- C. A copy of this written policy will be kept at all job sites. It is available for inspection and copying by all employees or their representatives. Employees may request a copy of this policy by find it in the job site safety binder.

## II. SILICA AND ITS HEALTH HAZARDS

- A. Crystalline silica is a basic component of sand, stone, rock, brick, block, mortar, concrete and many other naturally occurring and man-made materials used at construction sites. Quartz is the most common form of crystalline silica.
- B. All materials containing silica can result in the presence of respirable silica particles when chipping, cutting, sawing, drilling, grinding or crushing takes place.
- C. Respirable silica exposure occurs through inhalation of small (non-visible) silica containing particles that can result in silicosis and other health hazards.
- D. Silicosis is an irreversible, often disabling and sometimes fatal fibrotic lung disease. The fine particles are deposited in the lungs, causing thickening and scarring of the lung tissue. The scar tissue restricts the lungs' ability to extract oxygen from the air. This damage is permanent, but the symptoms of the diseases may not appear for many years.
  1. A worker may develop any of three types of silicosis, depending on the concentration of silica dust and the duration of the exposure:
    - Chronic Silicosis: Develops after 10 or more years of exposure to crystalline silica and relatively low concentrations.
    - Accelerated Silicosis: Develops 5 to 10 years after initial exposure to crystalline silica at high concentrations.
    - Acute Silicosis: Develops within weeks, or 4 to 5 years, after exposure to very high concentrations of crystalline silica.
  2. Silicosis symptoms may include shortness of breath, cough (with or without blood or mucus), fatigue or weakness. These symptoms can worsen over time and lead to death.
- E. Exposure to respirable silica particles has also been linked to other diseases, including:
  - Lung cancer;
  - COPD, including chronic bronchitis and emphysema;
  - Several types of kidney disease, including end stage renal disease;
  - Autoimmune conditions, including progressive systemic sclerosis, systemic lupus erythematosus, and rheumatoid arthritis; and
  - An increased chance that latent TB will develop into active pulmonary TB infection.

## III. STAFF RESPONSIBILITIES

- A. Health & Safety Manager
  1. Kevin MacDonald is responsible for the development, implementation, administration, evaluation, and maintenance of this program. He will review and evaluate this program on a regular basis to account for changes that may occur to legal standards and regulations, changes to process or procedures or anytime the program does not appear to be adequate

to protect employees from silica exposure. He may delegate responsibilities to members within the company.

2. Kevin MacDonald is responsible for ensuring that the following activities are completed:
  - Regularly evaluating new equipment and technologies that become available, as able/appropriate, purchasing the “best available” equipment/technologies (within capabilities).
  - Equipment/technologies with (silica) dust suppression and/or capture technologies will generally be given preference over equipment/technologies that lack such.
  - Implementing a suitable respirable silica exposure monitoring program, or otherwise ensuring that “Table 1” of OSHA’s Silica Standard is followed (29 C.F.R § 1926.1153).
  - Ensuring project and/or task specific Written Exposure Control Plans (“WECPs”) are developed, communicated to employees and effectively implemented as appropriate.
  - Ensuring that all employees receive the necessary education and training related to this Policy, as well as project/task specific WECPs.
  - Ensuring that the medical surveillance program is properly implemented.
  - Reviewing and evaluating compliance with this program periodically.
  - Maintaining applicable records (i.e. exposure sampling, inspections, respirator fit tests, training records, etc.).

#### B. Competent Person

1. Kevin MacDonald is responsible for ensuring that the following activities are completed:
  - Identifying existing and foreseeable respirable silica hazards on each project and/or task.
  - Ensuring project and/or task specific WECPs are developed, communicated to employees and effectively implemented as appropriate.
  - Performing inspections of the job sites, materials and equipment and implementing prompt corrective measures when necessary.

#### C. Supervisors and Foreman

1. The Supervisors and Foremen are responsible for ensuring that the following activities are completed:
  - Obtaining a copy of the project/task specific WECPs, and ensuring the WECP is communicated to employees and made available at each work site.
  - Ensuring that all the tools, equipment, PPE and materials including water necessary to implement the WECP is available and in good working order prior to allowing work activities to commence.
  - Ensuring that all workers under the supervisor’s direction and control have received the necessary education and training. As appropriate, each supervisor must ensure that workers are available to “demonstrate competency” for identified tasks.
  - Ensuring that workers adhere to the project/task specific WECP, including engineering controls, work practices, PPE and personal hygiene and housekeeping requirements.

#### D. All Employees

1. All Townsend & Schmidt Masonry employees are responsible for ensuring that the following activities are completed:
  - Knowing the hazards of silica dust exposure.
  - Using the assigned engineering controls, work practices and PPE in an effective and safe manner.
  - Participating in training and applying the knowledge learned.
  - Working in accordance with the provisions of the WECP.
  - Following the recommendations of management related to reducing exposure to respirable silica dust.
  - Reporting immediately to their supervisor any hazards (i.e., unsafe conditions, unsafe acts, improperly operating equipment, etc.).

#### **IV. HAZARD ASSESSMENT**

- A. Any time there is a potential for silica containing materials to be involved in a project, sources of silica must be assessed prior to disturbing. Townsend & Schmidt Masonry recognizes that the following materials may contain silica:
- Brick
  - Cement
  - Concrete
  - Mortar
  - Rock
  - Stone
  - Tile
- B. Townsend & Schmidt Masonry recognizes that the following tasks on silica containing products or materials can produce exposure to respirable silica at our worksite:
- Jack Hammering
  - Drilling
  - Demolishing/disturbing
  - Cutting/sawing
  - Grinding
  - Chipping
  - Crushing
  - Sacking/patching
  - Sweeping or cleaning up
  - Mixing or pouring
- C. Prior to starting work on each project, a competent person will be assigned to inspect the jobsite, materials and equipment to identify foreseeable silica hazards.
1. The competent person will complete the Written Exposure Control Plan (“WECP”) for each project/job task (Attachment A).
  2. The competent person will:
    - Describe all tasks that involve exposure to respirable crystalline silica;
    - Describe the engineering controls, work practices and respirator protection used to limit employee exposure to respirable crystalline silica for each task;
    - Describe the housekeeping measures used to limit employee exposure to respirable crystalline silica; and
    - Describe the procedures used to restrict access to work areas to minimize the number of employees exposed to respirable crystalline silica and their level of exposure.
- D. The competent person will review and evaluate the effectiveness of the WECPs at least annually and update it as necessary.
- E. Prior to the start of work on each project, the WECP will be reviewed by all employees. Employees will be required to follow all requirements provided in the WECP.

#### **V. METHODS OF COMPLIANCE**

- A. When Following the “Table 1” Approach Townsend & Schmidt Masonry will fully and properly implement the engineering controls, work practices, and respiratory protection specified when engaged in a task identified in “Table 1” of OSHA’s Silica Rule (29 C.F.R. § 1926.1153). Table 1 is attached as Attachment B.
- B. When Following the Exposure Monitoring Approach
1. For tasks not listed in Table 1, or when Townsend & Schmidt Masonry cannot fully and properly implement the engineering controls, work practices and respiratory protection in Table 1, Townsend & Schmidt Masonry will ensure that employee exposure to respirable crystalline silica will not exceed the Permissible Exposure Limit (“PEL”) of 50 µg/m<sup>3</sup>, calculated as an 8-hour Time Weighted Average (“TWA”) and will perform exposure monitoring for employees engaged in silica generating tasks.

2. Townsend & Schmidt Masonry will assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above 25 µg/m<sup>3</sup>.
  3. Initial exposure monitoring should be conducted to quantitatively evaluate the exposure to airborne silica. Objective data may also be used to characterize employee exposures to respirable crystalline silica. Monitoring may be discontinued if the initial monitoring indicates that employee exposure is below 25 µg/m<sup>3</sup>.
  4. Periodic exposure monitoring will be performed every six months whenever silica exposure levels are at or above 25 µg/m<sup>3</sup>, but below the PEL of 50 µg/m<sup>3</sup>. Periodic exposure monitoring will be performed every three months whenever silica exposure levels are at or above the PEL of 50 µg/m<sup>3</sup>.
  5. Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below 25 µg/m<sup>3</sup>, additional exposure monitoring will be performed within six months of the most recent monitoring until two consecutive measurements (taken seven or more days apart), are below 25 µg/m<sup>3</sup>. At which time, monitoring may be discontinued.
  6. Townsend & Schmidt Masonry will reassess exposures whenever a change in production, process, control equipment, personnel or work practices may reasonably be expected to result in new or additional exposures at or above 25 µg/m<sup>3</sup>.
- C. Exposure Sampling Methods
1. Personal exposure monitoring will be conducted using an approved NIOSH or OSHA method. Monitoring records should include the following:
    - The date, number, duration, location and results of each of the samples taken, including a description of the sampling procedures used to determine representative employee exposure where applicable.
    - A description of the sampling and analytical methods used.
    - The type of respiratory protective devices, if any.
    - Name and job classification of the employee monitored.
    - Any environmental variables that could affect the measurement of the employee exposure.
  2. Townsend & Schmidt Masonry will ensure that samples are analyzed by a laboratory that follows Appendix A to OSHA's Silica Rule (29 C.F.R. § 1926.1153).
- D. Employee Notification of Exposure Monitoring Results
1. Within five working days of receiving the exposure monitoring results, Townsend & Schmidt Masonry will notify each affected employee in writing of the results of those results or will post the results in an appropriate location accessible to all affected employees.
  2. If exposure monitoring results exceed the PEL of 50 µg/m<sup>3</sup>, Townsend & Schmidt Masonry will describe in the written notification the corrective action(s) being taken to reduce employee exposure to or below the PEL.
  3. If Townsend & Schmidt Masonry needs more than five days to identify the proper corrective actions, respiratory protection will be required for all employees exposed above the PEL and employees will be notified of the need to wear respirators until engineering or work practice controls can be implemented.

## VI. EXPOSURE CONTROLS

- A. Where Table 1 is followed or silica exposures are at or above the PEL, the appropriate engineering and work practice controls will be implemented.
- B. **Engineering Controls:** Engineering controls are those controls which aim to control or otherwise minimize the release of crystalline silica. Two engineering control options available to Townsend & Schmidt Masonry is Local Exhaust Ventilation (LEV) and Wet Dust Suppression (WDS) systems.  
**Work practice Controls:** Work practice controls are those that aim to control or otherwise minimize the release of silica through the use of work procedure and work methods. Suitable exposure control strategies will be determined for each project and task and documented in the specific WECP.

1. **LEV Systems:** LEV systems are available on some tools/appliances. Such LEV systems are generally comprised of a shroud assembly, a hose attachment, and a vacuum system. Dust-laden air is collected within the shroud, drawn into the hose attachment, and conveyed to the vacuum, where it is filtered and discharged. When LEV systems are used, Townsend & Schmidt Masonry will employ the following systems and safe work practices:
    - Use vacuum attachment systems that capture and control dust at its source whenever possible.
    - Ensure that shroud, hoses and connections are intact and are installed in accordance to manufacturer instructions.
    - Dust control systems will be maintained in optimal working condition.
    - Grinding wheels will be operated at the manufacturer's recommended RPM (operating in excess of this can generate significantly higher airborne dust levels).
    - HEPA or good quality, multi-stage vacuum units (*approved for use with silica dust*) will be used in accordance with the manufacturer's instructions and HEPA filters will be cleaned or changed in accordance with the manufacturer's instructions.
  2. **WDS Systems:** WDS systems are available on some tools/appliances. When WDS Systems are not available, similar effects may be achieved by manually wetting the surface (i.e., with a mister or with a hose). When WDS systems are used, Townsend & Schmidt Masonry will employ the following systems and safe work practices:
    - If water is not readily available on the specific Townsend & Schmidt Masonry project, the project supervisor will arrange to have a water tank delivered to the site for use.
    - Pressure and flow rate will be controlled in accordance with the tool manufacturer's specifications.
    - Wet slurry will be cleaned from work surfaces when the work is complete, if/when necessary.
    - Use flow rates specified by the manufacturer.
    - Ensure that the spray nozzle is working properly and is not clogged or damaged.
    - Ensure that all hoses and connections are intact.
    - Replace or change water when it gets gritty or begins to silt up with dust.
- C. **Personal Protective Equipment:** When used in conjunction with Engineering and Work practice controls, personal protective equipment can help further reduce our employee's exposure to silica dust.
1. An air purifying respirator fitted with HEPA cartridges is the most common piece of PPE that would be used by Townsend & Schmidt Masonry to minimize exposure to silica dust. Dependent on the effectiveness of the engineering and work practice controls employed and the work environment, either a "N-95", "full face piece" or "half face piece" respirator would be used by personnel (In the majority of situations a ½ face respirator will be used. When working indoors or in other areas with poor ventilation, a full face respirator may be required). Both of these respirators are "seal dependent", and thus the users must be "fit tested" and clean shaven where the respirator seals to the face.
- D. **Housekeeping & Personal Hygiene**
1. In areas where silica containing dust may be present, all surfaces must be maintained free from accumulation of dust to minimize potential silica exposure. Dust and other silica containing debris must be removed from the work area as soon as possible.
  2. Acceptable method of silica dust removal includes the use of HEPA filtered vacuum, use of a sweeping compound or wet methods such as wet mopping.
  3. Unacceptable methods of silica dust removal include dry sweeping and compressed air.
  4. Do not eat, drink or use tobacco products in dusty areas.
  5. Wash hands and face before eating, drinking or smoking outside dusty areas.
  6. Do not wear dusty clothes and shoes in your vehicle.
- E. **Restricting Access to Dusty Areas**

1. Townsend & Schmidt Masonry will restrict access of non-essential employees in areas where silica containing dust may be present and employees are required to wear a respirator or where exposure is likely to be above the PEL.
2. Barriers will be erected around known silica dust generating activities, and/or warning signs will be posted.
3. As able, work activities will be scheduled to minimize the silica related effect on, and from, others.
4. Unprotected workers will be relocated away from dust areas.
5. Employees will be informed to stay out of areas where dust is generated when not performing essential tasks.

## **VII. MEDICAL SURVEILLANCE**

- A. Employees who are exposed to respirable silica dust and required to wear a respirator at any time during a workday for 30 or more days should be enrolled in the Medical Surveillance Program.
- B. All medical surveillance will be performed by TBD ("TBD, TBD, CA, TBD"). The examination includes medical and work history, physical exam, chest-x-ray and pulmonary function test. On their first visit, the examination also includes a TB test.
  1. Employees will be examined within 30 days of initial assignment unless the employee has had an examination that meets the requirements of OSHA's Silica Standard within the last three years. Employees will be examined every three years from the employee's last examination, or more frequently if recommended by the Physician or Licensed Health Care Provider ("PLHCP"), if they continue to be exposed to respirable silica dust and are required to wear a respirator for 30 or more days.
  2. Upon hire, Townsend & Schmidt Masonry will receive a dated copy of the PLHCP's medical report for any employee who has previously been given an examination within three years from his date of hire. This record will be maintained and will be used to identify when the next periodic medical examination is needed. If the employee does not have a dated copy of the PLHCP's medical report, then the employee will be sent for an initial examination.
- C. Townsend & Schmidt Masonry will ensure that the examining PLHCP has:
  - A copy of the standard (Attachment C).
  - A description of the employee's past, current and future duties as they relate to crystalline silica exposure.
  - The employee's past, current and future levels of exposure, or the use of a respiratory under Table 1 which indicates likely exposure at or above the PEL of 50 µg/m<sup>3</sup>.
  - A description of any personal protective equipment used, or to be used, by the employee including when and for how long the employee has used or will use that equipment.
  - Information from records of employment-related medical examinations previously provided to the employee and currently within our control.
- D. The PLHCP should explain to the employee the results of the medical examination and provide each employee with a written medical report within 30 days of each medical examination performed.
  1. The employee's written report (Attachment D) should contain:
    - A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to respirable crystalline silica and any medical conditions that require further evaluation or treatment;
    - Any recommended limitations on the employee's use of respirators;
    - Any recommended limitations on the employee's exposure to respirable crystalline silica; and
    - A statement that the employee should be examined by a specialist if the chest X-ray provided in accordance with this section is classified as 1/0 or higher by the B Reader, or if referral to a specialist is otherwise deemed appropriate by the PLHCP.

2. If the employee provides written authorization (Attachment E), the written opinion may contain the following:
    - Any recommended limitations on the employee’s exposure to respirable crystalline silica;
    - A statement that the employee should be examined by a specialist.
  3. Kevin MacDonald will be responsible for following up with the employee to ensure that they received a written medical report and that the PLHCP explained the results. Under no circumstances will Townsend & Schmidt Masonry request a copy of the employee’s report.
- E. Townsend & Schmidt Masonry should obtain a written medical opinion from the PLHCP within 30 days of the medical examination.
1. The written report (Attachment F) should contain:
    - The date of the examination;
    - A statement that the examination has met the requirements of this section; and
    - Any recommended limitations on the employee’s use of respirators.
  2. Townsend & Schmidt Masonry shall ensure that each employee receives a copy of the written medical opinion within 30 days of each medical examination performed.

### **VIII. EDUCATION AND TRAINING**

- A. Prior to performing activities, or working on project sites where personnel could be exposed to silica dust, Townsend & Schmidt Masonry will ensure that personnel receive suitable education and training. As necessary, personnel will be trained to a level of “demonstrated competency”.
- B. Silica Awareness Education and Training must include:
  - The hazards and risks associated with exposure to silica dust, including cancer, lung effects, immune system effects and kidney effects.
  - The signs and symptoms of silica related diseases.
  - Specific tasks in the workplace that could result in exposure to respirable silica.
  - Exposure monitoring process if conducted.
  - General and specific silica exposure reduction methods/strategies including engineering and work practice controls as detailed in the WECPs.
  - The use and maintenance of specific pieces of equipment and control systems (i.e., LEV and WDS systems).
  - The use and care of respiratory (and other) personal protective equipment.
  - The purpose and description of the written exposure control plan.
  - The purpose and set up of regulated areas to mark the boundaries of work areas containing silica dust.
  - How to report items of concern related to silica exposure.
  - How to read labels on containers of silica and access safety data sheets.
  - The contents of the standard.
  - The identity of the competent person.
  - The purpose and description of the medical surveillance program (e.g., when medical surveillance is required, what tests are performed, symptoms associated with crystalline silica exposure-related diseases, the importance of keeping a copy of the written medical opinion to the employer as proof of medical examination).
- Silica Awareness Education and Training will be given during:
  - New Employee Orientation.
  - Project/Site Orientations/WECP.
  - Prior to using required tools, equipment and appliances.
  - New Assignments/Tasks/Equipment.
  - When an employee is working in a manner that suggests he or she has forgotten what was learned in training.
- Hazard Communication Training related to silica exposure is also required for all Townsend & Schmidt Masonry employees and should be conducted initially upon hiring.

- Respiratory Protection Training is also required for all Townsend & Schmidt Masonry employees who are required to wear a respirator. Employees will receive medical clearances and quantitative fit testing prior to wearing a respirator.

#### **IX. PROGRAM AUDIT**

- A. Kevin MacDonald is responsible for evaluating, reviewing, and maintaining the policy. At least annually, Kevin MacDonald will conduct an audit of the program to evaluate its effectiveness. Based on the results of the audit, changes may be made to the program to increase its effectiveness.

#### **X. RECORDKEEPING**

- A. Kevin MacDonald is responsible for maintaining records related to the implementation and evaluation of the policy and the training of employees.

Kevin MacDonald will maintain these records:

- Hazard and risk assessments
- Air and Exposure Monitoring data
- Objective Exposure data
- Medical surveillance reports and opinions
- Training records

- B. These records will be maintained for 30 years and made available to employees upon requests.

## 2.0 WRITTEN EXPOSURE CONTROL PLAN

**Company:** Townsend & Schmidt Masonry

Name of Competent Person: Kevin MacDonald

Contact Info: 916-383-5354

Brief description of the work: Masonry

Materials (check all that may apply):

- Brick
- Cement
- Concrete
- Mortar
- Rock
- Stone
- Tile

Tasks (check all that may apply):

- Chipping/hammering/drilling
- Cutting/sawing
- Demolishing/disturbing
- Grinding
- Mixing/pouring
- Sacking/patching
- Sweeping/cleaning up

Equipment (check all that may apply):

- Bucket shroud with vacuum for mixing
- Dust collector/vacuum for sweeping
- Hand-held angle grinder with vacuum
- Hand-held masonry saw with vacuum
- Hand-held masonry saw with water
- Portable mixing station with vacuum
- Stationary masonry saw with vacuum
- Stationary masonry saw with water
- Tuckpointing grinder with vacuum

Work Practice Controls (check all that may apply):

Wet cutting:

- Operate and maintain tools in accordance with manufacturer's instructions
- Check flow rates to minimize release of visible dust
- Ensure spray nozzle is working properly
- Apply water at the point of dust generation
- Check spray nozzle and hoses to ensure they are not clogged or damaged
- Check all hoses and connections to ensure they are intact
- Rinse or replace water filters as needed
- Replace water when it gets gritty or begins to silt up with dust

Vacuum Dust Collection System:

- Operate and maintain tools in accordance with manufacturer's instructions
- Check shrouds and hoses to ensure they are not clogged or damaged
- Check all hoses and connections to ensure they are intact
- Ensure that the vacuum has enough suction to capture dust at the cutting point

- Change or clean filter(s) in accordance with the manufacturer's instructions
- Empty dust collection bags often to avoid overfilling
- Keep blade flush against the surface whenever possible

Respirator Protection (check all that may apply):

- "N-95" filtering facepiece respirator
- Full-face elastomeric respirator
- Half-facepiece elastomeric respirator
- Powered air-purifying respirator

Housekeeping Controls (check all that may apply):

- Dispose of used vacuum bags in a container
- HEPA-filtered vacuuming of work surfaces
- No compressed air
- No dry sweeping
- Use Sweeping compound
- Wet sweeping of work surfaces

Restrict Access (check all that may apply):

- Move employees to areas where they are not exposed to dust if possible
- Post warning signs, cones or barrier tape
- Schedule certain tasks when others are not around
- Tell employees to stay out of areas where dust is generated if they do not need to be in the area